

a plurality of positive and negative rectifier elements respectively fixed to said pair of positive and negative cooling fins at the other half side thereof;

a pair of brushes for supplying field current to said rotor;

a brush-holder, disposed in said accommodation space, for holding said pair of brushes;

a connector case disposed in said accommodation space radially outside said brush holder so as to form a cooling air passage connecting to said air intake window between an outer periphery of said brush holder and said connector case, said connector case having a terminal for transmitting and receiving electric signals; and

an IC regulator, disposed in said cooling air passage around said connector case to face said rear cover, for controlling output voltage of said armature coil, said IC regulator having a heatsink disposed in said cooling air passage opposite said air intake window of said rear cover.

7. (Amended) The AC generator as claimed in claim 1, wherein said heat sink has a plurality of projections forming parallel air passages extending in a radial direction along said air passage.

8. (Amended) The AC generator as claimed in claim 1, wherein said brush holder is fastened to at least one of said connector case, said cooling fins and said frame so that said brush holder can be fixed at a present position.

11. (Amended) A vehicle AC generator, comprising:

a rotor having a field coil and a pair of slip rings connected to said field coil;

a stator having an armature coil;

a frame for supporting said rotor and stator;

a rear cover fixed to said frame, said rear cover having an air intake window;

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a rectifying unit including a pair of positive and negative cooling fins and a plurality of positive and negative rectifier elements respectively fixed to said pair of positive and negative cooling fins, said pair of cooling fins having a common cutout section at the middle thereof thereby forming an accommodation space between said frame and said rear cover;

a brush unit including a pair of brushes in contact with said pair of slip rings and a brush-holder for holding said pair of brushes, said brush holder being disposed in said accommodation space;

a connector case disposed in said accommodation space on a side of said brush holder behind said rectifier elements so as to form a cooling air passage connecting to said air intake window along said connector case, said connector case having a terminal for transmitting and receiving electric signals; and

an IC regulator, disposed in said cooling air passage around said connector case to face said rear cover, for controlling output voltage of said armature coil, said IC regulator having a heatsink disposed opposite said air intake window of said rear cover.

12. (Amended) A vehicle AC generator, comprising:

a rotor having a field coil and a pair of slip rings connected to said field coil;  
a stator having an armature coil;  
a frame for supporting said rotor and stator;  
a rear cover fixed to said frame, said rear cover having an air intake window;  
a rectifying unit including a pair of positive and negative cooling fins and a plurality of positive and negative rectifier elements respectively fixed to said pair of positive and negative cooling fins, said pair of cooling fins having a common cutout section at the middle thereof thereby forming an accommodation space between said frame and said rear cover;

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a brush unit including a pair of brushes in contact with said pair of slip rings and a brush-holder for holding said pair of brushes, said brush holder being disposed in said accommodation space;

a connector case disposed in said accommodation space on a side of said brush holder behind said rectifier elements, said connector case having a terminal for transmitting and receiving electric signals; and

an IC regulator having a heat sink for controlling output voltage of said armature coil; wherein

said connector case is disposed in said accommodation space so as to form a cooling air passage connecting to said air intake window along said connector case;

said IC regulator is disposed in said cooling air passage around said connector case to face said rear cover; and

said heat sink is disposed in said cooling air passage opposite said air intake window of said rear cover.

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Please add new claims 13 and 14 as follows:

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--13. A vehicle AC generator, comprising:

a rotor having a field coil and a shaft;

a stator having an armature coil;

a frame for supporting said rotor and stator, said frame having an air intake window;

a pair of positive and negative cooling fins fixed to said frame, said pair of cooling fins having a common cutout section at a half side thereof thereby forming an accommodation space;

a plurality of positive and negative rectifier elements respectively fixed to said pair of positive and negative cooling fins at the other side thereof;

a brush unit disposed in said accommodation space;

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a connector case having an outer surface, said connector case being disposed in said accommodation space so as to form a cooling air passage connecting to said air intake window; and

an IC regulator having a heat sink in said cooling air passage opposite said air intake window, said heat sink having a plurality of projections extending along said air passage, thereby guiding air from said air intake window along said cooling air passage into the inside of said frame without contacting any of said rectifier elements.--

--14. A vehicle AC generator, comprising:

a rotor;

a stator;

a frame for supporting said rotor and stator;

a rear cover disposed at a rear end of said frame, said rear cover having an air intake window;

a pair of C-shaped cooling fins having a common cutout section at the middle thereof disposed between said frame and said rear cover, thereby forming an accommodation space between said frame and said rear cover;

a plurality of rectifier elements respectively fixed to said pair of cooling fins;

a brush unit disposed in said accommodation space;

a connector case disposed in said accommodation space at a side of said brush unit behind said rectifier elements; and

an IC regulator having a heat sink disposed in said cooling air passage.--